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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,157	04/01/2002	Livia Dragne	114-01	8553

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EXAMINER	
PARSLEY, DAVID J	

ART UNIT	PAPER NUMBER
3643	

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,157	DRAGNE ET AL.	
	Examiner	Art Unit	
	David J Parsley	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-8 and 11-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-8 and 11-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Amendment

1. This office action is in response to applicant's amendment dated 1-15-04 and this action is final. Further, note that the allowability of claim 6 has been withdrawn and further newly amended claim 6 contains limitations that were not present in the initial claim language as originally filed on 8-8-03, for example the limitation of "a blasting network which includes an assembly of detonators" contains new subject matter and therefore this claim is materially different and has a different scope from the original claims and thus can be under final rejection as necessitated by applicant's amendment to add new, previously unexamined limitations into the claim.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 states in line 3 that there are at least two unsafe messages which implies that there can be 2 or more unsafe messages and then in line 12 states "the two designated unsafe

messages" which implies that only 2 unsafe messages are claimed and therefore it is unclear to how many unsafe messages are being claimed in applicant's claimed invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 7-8, 11/7, 11/8, 12/7, 12/8, 13/7, 13/8, 14/7, 14/8 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,404,820 to Hendrix.

In regards to claim 1, Hendrix discloses a method of controlling a blasting network (10) which includes an assembly of detonators, the method including the steps of designating at least one unsafe message, placing a communication link between a control unit (16) and the network in a control mode in which the communication link is monitored for the unsafe message, in said control mode preventing the unsafe message, when detected, from reaching the assembly of detonators and placing the communication link in an operational mode in which any previously designated unsafe message is allowed to reach the assembly of detonators, and wherein in both the control mode and the operational mode any message which has not been designated as unsafe is permitted to be transmitted to the assembly of detonators via the communication link, in figures 1, 4, and 5, in column 3 lines 22-28, column 4 lines 19-22 and

lines 46-68, column 5 lines 1-12, lines 28-33, lines 45-55, and lines 66-68, and column 6 lines 1-5 and lines 38-41.

In regards to claim 2, Hendrix discloses a method wherein the control mode of the communication link the or each unsafe message is prevented from reaching the assembly of detonators by preventing the onward transmission of the unsafe message, in column 4 lines 46-52.

In regards to claim 7, Hendrix discloses a system for controlling a blasting network (10) which includes an assembly of detonators – at (12), (15), the system including a control unit (16) and a communication link for the network, the communication link being capable of being placed in a control mode and in an operational mode, and a monitoring device (6) for monitoring the communication link for at least one previously designated unsafe message, wherein the communication link in it's control mode prevents any detected unsafe message from being transmitted to the assembly of detonators and in it's operational mode permits any previously designated unsafe message to be transmitted to the assembly of detonators, and wherein in both it's control mode and it's operational mode the communication link permits any message which has not been designated as unsafe to be transmitted via the communication link, in figures 1, 4, and 5, in column 3 lines 22-28, column 4 lines 19-22 and lines 46-68, column 5 lines 1-12, lines 28-33, lines 45-55, and lines 66-68, and column 6 lines 1-5 and lines 38-41.

In regards to claim 8, see rejection for corresponding parts of claim 2, above.

In regards to claims 11/7 and 11/8, Hendrix discloses wherein the control unit is capable of generating legal unsafe messages, which are transmitted via the communication link in it's operational mode, in column 4 lines 46-52.

In regards to claims 12/7 and 12/8, Hendrix discloses wherein the monitoring device is a filter, in column 3 lines 30-38 and column 4 lines 41-45.

In regards to claims 13/7 and 13/8, Hendrix discloses wherein the communication link is placed in its control and operational modes by means of a switch (32), in column 4 lines 46-52.

In regards to claims 14/7 and 14/8, Hendrix discloses a blasting system including a control system connected to a blasting network (10) including an assembly of detonators (12), (15), in figure 1, column 4 lines 63-68, column 5 lines 1-12, lines 28-33, lines 45-55, lines 66-68, and column 6 lines 1-5.

In regards to claim 15, Hendrix discloses a blasting system including a control system connected to a blasting network (10) wherein the control unit (16) of the control system for controlling the blasting network is capable of generating legal unsafe messages, which are transmitted via the communication link in it's operational mode, in figure 1, column 4 lines 46-52, lines 63-68, column 5 lines 1-12, lines 28-33, lines 45-55, lines 66-68, and column 6 lines 1-5.

In regards to claim 16, Hendrix discloses blasting system including a control system for controlling a blasting network, connected to the blasting network (10) wherein the monitoring device (6) of the control system is a filter, in figure 1, column 3 lines 30-38, column 4 lines 41-45, lines 63-68, column 5 lines 1-12, lines 28-33, lines 45-55, lines 66-68, and column 6 lines 1-5.

In regards to claim 17, Hendrix discloses blasting system including a control system for controlling a blasting network, connected to a blasting network (10) wherein the communication link of the control system is placed in it's control and operation modes by means

of a switch (32), in figure 1, column 4 lines 46-52, lines 63-68, column 5 lines 1-12, lines 28-33, lines 45-55, lines 66-68, and column 6 lines 1-5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5/1, 5/2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrix in view of U.S. Patent No. 5,756,924 to Early.

Regarding claims 5/1 and 5/2, Hendrix discloses the claimed invention, except for illustrating that the method of designating an unsafe message includes two unsafe messages. Early teaches in figure 4, column 3 lines 55-60, column 7 lines 49-54 and lines 58-67, and column 8 lines 1-4 and lines 46-52, that a first laser (34) is used to provide a high power peak short duration pulse and that a second laser (36) is used to provide a low peak power long duration pulse, which are combined in order to regulate the rate and duration of laser energy delivery. It would have been obvious to one of ordinary skill in the m at the time the invention was made to employ Early' s method of combining the energy of two lasers in order to achieve the desired effect of an optimal ignition performance.

In regards to claim 6, Hendrix discloses a method of controlling a blasting network (10) which includes an assembly of detonators, the method including the steps of designating an

unsafe message, placing a communication link between a control unit (16) and the network in a control mode in which the communication link is monitored for the unsafe message, in said control mode preventing the unsafe messages, when detected, from reaching the assembly of detonators and placing the communication link in an operational mode in which any previously designated unsafe message is allowed to reach the assembly of detonators, and wherein in both the control mode and the operational mode any message which has not been designated as unsafe is permitted to be transmitted to the assembly of detonators via the communication link and wherein the designated unsafe message is respectively equated with arm and fire commands, in figures 1, 4, and 5, in column 3 lines 22-28, column 4 lines 19-22 and lines 46-68, column 5 lines 1-12, lines 28-33, lines 45-55, and lines 66-68, and column 6 lines 1-5 and lines 38-41. Hendrix discloses the claimed invention, except for illustrating that the method of designating an unsafe message includes two unsafe messages. Early teaches in figure 4, column 3 lines 55-60, column 7 lines 49-54 and lines 58-67, and column 8 lines 1-4 and lines 46-52, that a first laser (34) is used to provide a high power peak short duration pulse and that a second laser (36) is used to provide a low peak power long duration pulse, which are combined in order to regulate the rate and duration of laser energy delivery. It would have been obvious to one of ordinary skill in the m at the time the invention was made to employ Early' s method of combining the energy of two lasers in order to achieve the desired effect of an optimal ignition performance.

Response to Arguments

5. Regarding claims 1-2, 7-8 and 11-17, the Hendrix reference US 5404820 does disclose preventing an unsafe signal from reaching the assembly of detonators – at 12, 15 as seen in

column 4 lines 63-68 and column 5 lines 1-12 where it is stated that "When the correct format fire command is received: the deflector moves to the selected event channel; the correct channel is verified ensuring that the system is pointing to the correct position: the flashlamp fire signal is generated and the S & A device is opened; the laser fires and the laser pulse is transmitted through the S & A device...", and therefore the determination of an incorrect fire command and/or the selection of the incorrect channel, can result in these messages from not being sent the detonators. Further as seen in column 5 lines 28-33, where the deflector – 6 can control the optical energy from being sent to the detonators and thus the unsafe fire message is not received by the detonators.

Further, applicant states that the BIT command is not an unsafe message. However, as seen in column 4 lines 52-62 of the Hendrix reference the BIT command is used to test fire the laser and verify if P-switch and AO deflector are safed which implies that the BIT command could result in an unwanted condition such as the laser not firing properly and/or the P-switch and AO deflector not being verified safe. Therefore the BIT command does meet applicant's definition for an unsafe message in that the message if received could result in unwanted conditions.

Regarding claim 5, see above with reference to claim 1 and further as seen above in paragraph 4 of this office action the Early US 5756924 reference teaches the claimed limitations not disclosed by Hendrix.

Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection as necessitated by applicant's amendment where newly added

claim limitations which were not previously examined, such as the blasting network including an assembly of detonators, were added to the claim.

Regarding withdrawn claims 3-4 and 9-10, the rejection of claim 1 has not been overcome as seen above and therefore the request for rejoinder of these claims is denied.

Regarding the drawings filed 4-1-02, these drawings are acceptable to the examiner.

Regarding claims 15-17, these claims were originally considered independent claims since their preambles were not consistent with the claims from which they depended and it was unclear to whether these claims were to be related to a different invention. Applicant's amendments to these claims have cleared up these issues.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to methods of controlling blasting networks in general:

U.S. Pat. No. 5,185,528 to Gordon – shows blasting network

U.S. Pat. No. 6,014,932 to Mardirossian – shows blasting network

U.S. Pat. No. 6,079,333 to Manning – shows blasting network

U.S. Pat. No. 6,227,114 to Wu et al. – shows blasting network

EP Pat. No. 0611944 – shows blasting network

8. Any inquiry concerning this communication from the examiner should be directed to David Parsley whose telephone number is (703) 306-0552. The examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon, can be reached at (703) 308-2574.

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600

4/27/04